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Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of) GEN. Doc. No. 93-252
)
)
Implementation of Sections)
3(n) and 332 of the)
Communications Act)
)
)

Regulatory Treatment of Mobile Services

COMMENTS OF GRAND BROADCASTING CORPORATION

To: The Commission

Grand Broadcasting Corporation, hereinafter termed
"Grand Broadcasting", by counsel and pursuant to the
Commission's NOTICE OF PROPOSED RULEMAKING ("NPRM") in the
above captioned matter, hereby files Comments in response
to the NPRM.

Grand Broadcasting's PETITION FOR RULEMAKING AND
REQUEST FOR PIONEER'S PREFERENCE, hereinafter termed
"Petition", to establish a proposed INTERACTIVE BROADCAST
RADIO SERVICE ("IBRS") is pending in both GEN. Doc. Nos.
90-314 and 91-2. The Petition, which was based on Grand
Broadcasting's pending patent application (now a pending
CONTINUATION-IN-PART patent application which encompasses
and adds to the original invention as disclosed in said

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former patent application), requested that two competing IBRS providers per regional market area (the respective areas currently served by the Regional Bell Operating Companies) be classified as Part 95 (47 CFR Section 95), Personal Radio Services, licensees.

The NPRM at Para. 9 and n. 8 proposes that all Part 95 licensees, except IVDS, be classified as "mobile services". Accordingly, these Comments address such regulatory classification and, in particular, urge such classification be "Private Mobile Services" under the NPRM. These Comments also describe a feature of Grand Broadcasting's proposed IBRS operation not specified in but within the scope of the Petition, which feature is hereby incorporated by reference in said Petition (should, however, the Commission not approve of this feature - which is optional for Grand Broadcasting's and a competitor's IBRS operation, this design feature will not be deployed).^{*} For efficient and consistent implementation of this feature, described below, the Commission must provide Private Mobile IBRS licensees in this GEN. Doc. No. 93-252 proceeding certain cellular radio network interconnection and network access rights. While said IBRS system design feature should be viewed favorably from a business perspective by cellular

* This proposed feature is limited to the system design as described in Grand Broadcasting's Petition and Pioneer's Preference Request for an IBRS allocation of 500 kHz and is no longer proposed if said Petition or Request is denied.

radio licensees, such interconnection and access rights must be mandated in this proceeding to ensure IBRS licensees receive the feature's inherent design efficiencies consistently from respective cellular licensees in each market area.

As a threshold concern, IBRS should be classified as a "Private Mobile Service" under the regulatory classification proposed in the NPRM. As envisioned in Grand Broadcasting's pending CONTINUATION-IN-PART patent application, consumers will interact via IBRS with broadcast data codes to conduct aural transactions of the same scope as consumers will be enabled to conduct via IVDS in the video realm. Stand-alone applications, e.g. without the RDPU device being physically or electronically connected to broadcast radio receivers, are envisioned using speech synthesizer voice delivery via specially designed receivers capable of receiving subcarrier or SCA broadcast data in predetermined kHz channels, in the same manner as some pagers presently receive SCA broadcast data for paging applications. For both the preferred applications via RDPU-broadcast radio receiver devices and the stand-alone applications the RDPU transceiver will transmit response codes (via the existing cellular radio base station/switching facility infrastructure under the design feature referenced above) to an electronic mailbox, clearinghouse facility - using store and forward

applications and, with the clearinghouse program listing database, store and retrieve applications. In its NPRM, the Commission suggests such applications should be classified as Private Mobile Services, as such treatment would be consistent with the current Private Radio Bureau practice with respect to paging licensees (Grand Broadcasting submits that for identical reasons IBRS, like paging, should be classified as Private Mobile Service):

"... a PSTN-based caller seeking to send a paging message through a licensee-operated store-and-forward computer relay ... arguably has no more control over the transmission of the message than a caller seeking to send a message through a licensee-operated answering service (as was the case in Data Com). Thus, the Private Radio Bureau's view has been that the two fact situations are indistinguishable as far as interconnection is concerned." NPRM at n. 25.

Indeed, the Private Radio Bureau's characterization of paging's store and forward nature is virtually identical to the store and forward/store and retrieve nature of Grand Broadcasting's proposed IBRS service:

"[the Private Radio Bureau's policy of non-interconnected service is based on] the use of the telephone network by a person who does not control the transmission of the radio message ... where the

telephone link ceases before the message is sent to the subscriber." NPRM at Para. 21.

Simply stated, the design feature which Grand Broadcasting plans to incorporate into its proposed IBRS system structure is to "piggy back" the 500 kHz requested in the Petition on the existing cellular radio infrastructure, using one of the two cellular radio licensees' (per market) base station transceiver and Mobile Telephone Switching Office (MTSO) facilities (and the competing IBRS licensee optionally "piggy back" on the other cellular radio licensee's facilities). The short data bursts proposed in the Petition to be sent from the Remote Data Processing Unit (RDPU) device (FIGURE 4 in the patent application appended to said Petition and also contained in Grand Broadcasting's pending CONTINUATION-IN-PART patent application) to the service center computer, which are planned to be non-Electronic Data Interchange (non-EDI) data codes, can efficiently and reliably be carried via the digital IBRS radio frequency requested over the one, two or more mile coverage area radius of existing cellular radio base stations. In contrast, however, said data codes would be carried inefficiently and unreliably over analog or even digital cellular radio frequency.

The efficiencies inherent in this design feature are compelling. Indeed, existing cellular radio base station tower facilities would be used, requiring only the addition

and/or rechanneling of station receiving antenna equipment. Such "piggy backing" with the cellular radio frequency is particularly efficient with the contemplated allocation of 900 MHz frequency for IBRS because said frequency is extremely close to the existing cellular radio frequency band thereby making any cost of re-engineering base station radio receivers to also receive IBRS radio frequency (900 MHz) data/control transmission minimal, if not negligible. Consumer RDPU devices, which could be designed into or separate from cellular radio handsets, would simply transmit the data codes, e.g. FIGURE 4, via the radio frequency allocated for IBRS to the appropriate cellular radio system base station transceiver, using separately designed control and channel assignment geared for IBRS use. IBRS system cell re-use would likely be dictated by cellular radio system cell re-use; however, such re-use would yield re-use efficiencies equal to or greater than what a stand-alone IBRS cell re-use scheme could achieve. Further, IBRS licensees would not have to build a separate radio frequency infrastructure, including base station and switching facilities.

The NPRM requests comment on interconnection arrangements mobile service providers should be entitled to from Commercial Service Providers. Grand Broadcasting's above specified design feature for IBRS requires the Commission mandate IBRS licensees are entitled to cellular

radio network access and interconnection arrangements on terms and conditions equal to that available to cellular radio service licensees, including:

- 1) access and interface by RDPU transceivers to transmit/receive on the radio frequency allocated for IBRS to/from existing cellular radio base station transceivers;
- 2) access to base station facilities, i.e. antenna, radio receiver and transmitter, data and control signalling, processing equipment, power amplifiers and cell site controller (to extent not practical to install separately), back-up power equipment and other essential basic network control and management facilities that could be efficiently shared with IBRS licensees and/or would be inefficient to install separately; and
- 3) access to and shared use of the existing cellular radio system MTSO, including X.25 links to LEC or interexchange carrier public data networks, e.g. links cellular radio carriers are currently developing with Cellular Digital Packet Data Networks and also said links to X.400 EDI networks such as AT&T EASYLINK and other EDI public VANS.

As proposed in the NPRM by the Commission, cellular radio licensees should be classified as Commercial Mobile Service providers, indeed as dominant common carriers in

the mobile communications marketplace.

In addition, Grand Broadcasting urges that all existing public EDI VAN operators, at least interexchange carrier based, be classified as dominant common carriers subject to the Commission's Open Network Architecture requirements. Future LEC based public EDI VAN networks, which offer potential for substantial entry fee and gateway efficiencies, as well as existing public EDI networks, should be required to provide IBRS licensees interconnection and access arrangements for EDI, X.400/X.435 and X.500 applications equal to that provided their respective EDI VAN operations. X.400/X.435 messaging, for example, is essential to linking EDI networking with wireless messaging in a single network.

Generally, the electronic mailbox facilities to which the proposed IBRS/EDI system will require interconnection are public data network transmission/signalling facilities, switching facilities/nodes, routing facilities and storage facilities. Further, storing within the public data network should be required for IBRS applications because of the inherent advantages of in-network storage, such as the message duplication, delayed sending and archiving. Additional electronic mailbox functionalities basic to the proposed IBRS/EDI system that should be made available to IBRS licensees on an "equal access" basis include:

- 1) acknowledgement of message delivery or

non-delivery;

2) message identification numbers;

3) return of messages if not deliverable;

4) reply requested capability;

5) X.400 (88) Message Store: a temporary storage area for access by a remote microprocessor device User Agent (UA), which is an application process that interacts with the Message Transfer System (MTS) to submit store and forward messages;

6) MTS delivery of messages submitted to it to one or more recipient UAs;

7) CCITT Message Handling System (MHS), which is a collection of UAs and Message Transfer Agents (MTAs) operating in an MTS to relay messages and deliver them to intended recipients and, generally, provides means by which UAs can exchange messages:

the two basic interactions between the MTAs and the UAs are a) submission interaction, which is the means by which an originating UA transfers the content of a message plus the submission envelope to an MTA (the submission envelope contains the information the MTS requires to provide the requested service elements) and b) delivery interaction, which is the means by which the MTA transfers the content of a message

plus the delivery envelope to a recipient UA (the delivery envelope contains information related to the delivery of the message);

8) P7 protocol: the definition of the protocol for transfer of messages between the Message Store and a remote UA;

9) security features, e.g. user authentication and data integrity; and

10) X.500 Directory Services: the standards for storage and access to user addressing information.

Using such EDI messaging capabilities, the return responses from Grand Broadcasting's computer service center or clearinghouse to the consumer is envisioned to travel via the radio frequency allocated for IBRS to ANY telecommunications device, such as personal computers, personal digital assistants or other devices with appropriate radio receive capability that are otherwise - without EDI - incompatible. Further, the RDPU device that originally transmits the consumer response codes could receive, pursuant to Grand Broadcasting's pending CONTINUATION-IN-PART patent application, any return data via the IBRS radio frequency that can be converted and voice delivered via the device speech synthesizer.

EDI is a technology with far-reaching applications for many different industries and consumer applications.

Europe is presently leading the United States in such multi-tiered EDI deployment, primarily due to the efforts of the Trade Electronic Data Interchange Systems Programme of the European Commission in speeding the deployment of EDI in Europe. Through authorizing Grand Broadcasting's proposed IBRS/EDI infrastructure, the Federal Communications Commission could rapidly bring EDI to consumer-level applications, which would enable the U.S. to leap-frog Europe in leading EDI deployment and could serve to be a vital part of the nation's much heralded "Information Infrastructure".

In conclusion, Grand Broadcasting urges the Commission mandate for IBRS certain public network interconnection and access arrangements. First, Grand Broadcasting urges cellular radio network "piggy back" interconnection and access for IBRS, with the radio frequency allocated for IBRS, to essentially be built on top of the existing cellular radio infrastructure. Cellular radio 1) serves, primarily, the in-car market, the market IBRS must penetrate to be profitable; 2) has an allocated frequency extremely close to that 900 MHz frequency contemplated for IBRS; and 3) has many common technical and engineering characteristics in common with the proposed IBRS system, all of which make cellular radio an ideal infrastructure upon which IBRS networks, with entirely separate radio frequency allocation, can be most efficiently built and

operated.

Second, and finally, Grand Broadcasting urges the Commission to mandate interconnection and access arrangements to public electronic mailbox networks, including and in particular X.400/X.435 networks, to promote the domestic deployment of EDI in a manner surpassing the Commission's European counterparts. Grand Broadcasting submits such regulatory leadership in fostering new technology is in the public, as well as national, interest.

Respectfully submitted,

A handwritten signature in black ink, reading "David A. Reams". The signature is fluid and cursive, with a long horizontal stroke at the end.

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